

## **Supplemental Material**

### Detailed description of operationalization for utilization and costs

To analyze healthcare utilization and costs, we summed up all reimbursed services documented within statutory health insurance (SHI) data for three areas: (i) inpatient care, (ii) outpatient care, and (iii) medication and assistive devices.

Net costs are given within the statutory health insurance (SHI) data for the areas (i) and (iii). We used the doctors' fee scale ("Einheitlicher Bewertungsmaßstab", EBM (1)) to calculate the costs for outpatient care. This list includes all healthcare services which can be submitted by outpatient doctors for reimbursement and allocates a certain number of points to each service. The sum of all reimbursed points was multiplied with the nationwide value for the base unit of one point, which increased over time: 5.1129 ct up to quarter 3/2013, 10.0000 ct for quarter 4/2013, and 10.1300 ct for 2014 (2, 3). In addition to the priced fee schedule positions, we added material expenses given in €.

Besides calculating costs, it was also necessary to define healthcare utilization for the different areas and in particular to identify mental health treatment.

For inpatient care, mental health treatment was identified by considering diagnosis related groups (DRG) U63Z ("severe affective disorders") and U64Z ("anxiety disorders or other affective and somatoform disorders") as well as treatment within the "general psychiatry" or "psychosomatics/psychotherapy" departments (code groups 2900 and 3100) (4).

To analyze outpatient healthcare utilization, we identified treatment cases, i.e. the treatment of one individual within one quarter by one physician. Mental health treatment encompassed all treatment cases provided by "neurology", "psychiatry and psychotherapy", "psychosomatic medicine and psychotherapy", "medical psychotherapist", or "psychological psychotherapist" specialists (code groups 51, 58, 60, 61, 68) (5). Besides mental health treatment, we also identified psychotherapy as a

more specific treatment. To analyze this utilization, we counted the number of days psychotherapy took place: every day where at least one relevant fee schedule position was documented (22220-22222, 23220, 35150, 35200-35203, 35210-35211, 35220-35225) was taken into account. We added a number of relevant fee schedule positions (35130-35131, 35140-35142, 35251-35253, 35300-35302) to calculate the costs of psychotherapy. They do not represent healthcare services for psychotherapy itself, which are appropriate to count the number of days with psychotherapy, but include services which are closely related to psychotherapy. For instance, they include diagnostic services prior to actual psychotherapy or administrative services, such as submitting an application for reimbursement to the health insurance provider. These fee schedule positions are therefore not relevant when counting days of psychotherapy, but are important when calculating the overall costs of psychotherapy.

Within the third area, medication, we defined mental health treatment as SHI reimbursed antidepressants by using the Anatomical Therapeutic Chemical (ATC) code starting with N06A (6).

## References

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